WE CLAIM:

1. A drill nozzle, comprising:

a housing including a first section and a second section, said first section intersecting with said second section;

wherein said first section has a cylindrical elongated shape, a hollow interior, and a first axis, said first section extending along said first axis;

wherein said first section has a first open end and a second open end opposite from said first open end, said first open end and said second open end being terminal ends spaced apart along said first axis and defining a spherical internal chamber therein;

wherein said first section includes an air intake having a cylindrical shape, said air intake being located proximate to said second open end and above said second section, said air intake extending said housing downward in a right angle to said first axis;

wherein said first section further includes a first coolant inlet having a cylindrical shape and extending said housing sideward in a right angle to said first axis, a first integrally molded coolant passageway, and a first set of at least two coolant jets, said first coolant passageway connecting said first coolant inlet with said first set of coolant jets, wherein said first set of coolant jets is integrally molded into said first open end;

wherein said first section further includes a second coolant inlet having a cylindrical shape and extending said housing sideward in a direction opposite to said first coolant inlet and in a right angle to said first axis, a second integrally molded coolant passageway, and a second set of at least two coolant jets, said second coolant passageway connecting said second coolant inlet with said second set of coolant jets, wherein said second set of coolant jets is integrally molded into said first open end;

wherein said second section has a cylindrical elongated shape, a hollow interior, and a second axis being in a right angle with said first

axis, said second section extending downward from said first section along said second axis and said second section being located proximate to said second open end of said first section;

wherein said second section includes a vacuum tube being in connection with said spherical internal chamber of said first section;

wherein said second section further includes at least two mounting flanges having an aperture, said mounting flanges being located proximate to the intersection of said first section and said second section and said mounting flanges extending sideward from said housing to opposite sides in a right angle to said first axis and said second axis; and

a bristle brush ring, said bristle brush ring being attached to said first section of said housing proximate to said first open end.

2. The drill nozzle of Claim 1, wherein said first open end of said first section of said housing has a first outer diameter and a first inner diameter being smaller than said first outer diameter, wherein said second open end of said first section of said housing has a second outer diameter and a second inner diameter being smaller than said second outer diameter, and wherein said first inner diameter is larger than said second inner diameter.

3. The drill nozzle of Claim 2, wherein said first set of coolant jets and said second set of coolant jets are evenly spaced around the circumference of said first open end and between said first outer diameter and said first inner diameter of said first end, and wherein each of said coolant jets is positioned to expel coolant fluid toward said first axis.

4. The drill nozzle of Claim 1, wherein said first coolant inlet includes an integrally molded coolant nozzle and wherein said second coolant inlet includes an integrally molded coolant nozzle.

5. The drill nozzle of Claim 1, wherein said first coolant inlet and said second coolant inlet have a barbed fitting.

6. The drill nozzle of Claim1, wherein said first coolant inlet and said second coolant inlet receive coolant fluid from an external source.

7. The drill nozzle of Claim 1, wherein said air intake includes an integrally molded manifold air nozzle, said air nozzle being located in the back of said internal chamber proximate to said second open end of said first section and above said vacuum tube along said second axis.

8. The drill nozzle of Claim 7, wherein said air nozzle provides a thrust-vectored down draft into said vacuum tube.

9. The drill nozzle of Claim 1, wherein said air intake includes a barbed fitting.

10. The drill nozzle of Claim 1, wherein said air intake is connected to an external source providing pressurized air.

11. The drill nozzle of Claim 1, wherein said vacuum tube intersects with said internal chamber proximate to said second open end.

12. The drill nozzle of Claim 1, wherein said vacuum tube is attached to an external vacuum source.

13. The drill nozzle of Claim 1, wherein said housing is made of acrylonitrile butadiene styrene (ABS) plastic.

14. The drill nozzle of Claim 1, wherein said housing is manufactured

in one piece using a fused deposition modeled process.

15. The drill nozzle of Claim 1, wherein said bristle brush ring is made of a material that can be wrapped around said housing and wherein said bristle brush ring is secured to said housing proximate to said first open end using a band clamp.

16. The drill nozzle of Claim 1, wherein said housing is attached to a drill motor unit.

17. A drill nozzle, comprising:

a housing including a first section and a second section, said first section intersecting with said second section;

wherein said first section has a cylindrical elongated shape, a hollow interior, and a first axis, said first section extending along said first axis;

wherein said first section has a first open end and a second open end opposite from said first open end, said first open end and said second open end being terminal ends spaced apart along said first axis and defining a spherical internal chamber therein;

wherein said first section includes an air intake having a cylindrical shape, said air intake being located proximate to said second open end and above said second section, said air intake extending said housing downward in a right angle to said first axis;

wherein said first section further includes a first coolant inlet having a cylindrical shape and extending said housing sideward in a right angle to said first axis, a first integrally molded coolant passageway, and a first set of at least two coolant jets, said first coolant passageway connecting said first coolant inlet with said first set of coolant jets, wherein said first set of coolant jets is integrally molded into said first open end;

wherein said first section further includes a second coolant

inlet having a cylindrical shape and extending said housing sideward in a direction opposite to said first coolant inlet and in a right angle to said first axis, a second integrally molded coolant passageway, and a second set of at least two coolant jets, said second coolant passageway connecting said second coolant inlet with said second set of coolant jets, wherein said second set of coolant jets is integrally molded into said first open end;

wherein said second section has a cylindrical elongated shape, a hollow interior, and a second axis being in a right angle with said first axis, said second section extending downward from said first section along said second axis and said second section being located proximate to said second open end of said first section;

wherein said second section includes a vacuum tube being in connection with said spherical internal chamber of said first section;

wherein said second section further includes at least two mounting flanges having an aperture, said mounting flanges being located proximate to the intersection of said first section and said second section and said mounting flanges extending sideward from said housing to opposite sides in a right angle to said first axis and said second axis;

a bristle brush ring, said bristle brush ring being attached to said first section of said housing proximate to said first open end; and

a mounting device, wherein said mounting device attaches said housing to a drill motor unit.

18. The drill nozzle of Claim 17, wherein said mounting device includes:

two horse shoe brackets that attach to a base section of said drill motor unit,

a mounting plate in rigid connection with said horse shoe brackets, and

two adjustable slides attached to said mounting plate at opposite

sides, wherein said adjustable slides connect said mounting plate with said mounting flanges of said housing.

19. The drill nozzle of Claim 17, further including two locking screws that secure said adjustable slides.

20. The drill nozzle of Claim 17, wherein said drill motor unit is part of a numerically controlled drill jig used to drill holes into a leading edge extension spar of the F-18 aircraft.

21. A numerically controlled drill jig, comprising:

a drill motor unit;

a drill nozzle being attached to said drill motor unit and including:

a housing including a first section and a second section, said first section intersecting with said second section;

wherein said first section has a cylindrical elongated shape, a hollow interior, and a first axis, said first section extending along said first axis;

wherein said first section has a first open end and a second open end opposite from said first open end, said first open end and said second open end being terminal ends spaced apart along said first axis and defining a spherical internal chamber therein;

wherein said first section includes an air intake having a cylindrical shape, said air intake being located proximate to said second open end and above said second section, said air intake extending said housing downward in a right angle to said first axis;

wherein said first section further includes a first coolant inlet having a cylindrical shape and extending said housing sideward in a right angle to said first axis, a first integrally molded coolant passageway, and a first set of at least two coolant jets, said first coolant passageway connecting said first coolant inlet with said first set of coolant jets, wherein said first set of coolant

jets is integrally molded into said first open end;

wherein said first section further includes a second coolant inlet having a cylindrical shape and extending said housing sideward in a direction opposite to said first coolant inlet and in a right angle to said first axis, a second integrally molded coolant passageway, and a second set of at least two coolant jets, said second coolant passageway connecting said second coolant inlet with said second set of coolant jets, wherein said second set of coolant jets is integrally molded into said first open end;

wherein said second section has a cylindrical elongated shape, a hollow interior, and a second axis being in a right angle with said first axis, said second section extending downward from said first section along said second axis and said second section being located proximate to said second open end of said first section;

wherein said second section includes a vacuum tube being in connection with said spherical internal chamber of said first section;

wherein said second section further includes at least two mounting flanges having an aperture, said mounting flanges being located proximate to the intersection of said first section and said second section and said mounting flanges extending sideward from said housing to opposite sides in a right angle to said first axis and said second axis;

a bristle brush ring, said bristle brush ring being attached to said first section of said housing proximate to said first open end; and

a mounting device attaching said housing to said drill motor unit, said mounting device including:

two horse shoe brackets that attach to a base section of said drill motor unit,

a mounting plate in rigid connection with said horse shoe brackets, and

two adjustable slides attached to said mounting plate at opposite sides, wherein said adjustable slides connect said mounting plate with

said mounting flanges of said housing.

22. The numerically controlled drill jig of Claim 21, further comprising an external source providing pressurized air to said air intake.

23. The numerically controlled drill jig of Claim 21, further comprising an external coolant source being connected to said first coolant inlet and said second coolant inlet.

24. The numerically controlled drill jig of Claim 21, further comprising an external vacuum source being connected to said vacuum tube.

25. A coolant feed drill nozzle with thrust-vectored intake, comprising:

a housing including a first section and a second section, said first section intersecting with said second section;

wherein said first section has a cylindrical elongated shape, a hollow interior, and a first axis, said first section extending along said first axis;

wherein said first section has a first open end and a second open end opposite from said first open end, said first open end and said second open end being terminal ends spaced apart along said first axis and defining a spherical internal chamber therein;

wherein said first open end of said first section of said housing has a first outer diameter and a first inner diameter being smaller than said first outer diameter, wherein said second open end of said first section of said housing has a second outer diameter and a second inner diameter being smaller than said second outer diameter, and wherein said first inner diameter is larger than said second inner diameter;

wherein said first section includes an air intake having a cylindrical shape and a barbed fitting, said air intake being located proximate to said second open end and above said second section, said air intake extending

said housing downward in a right angle to said first axis;

wherein said air intake includes an integrally molded manifold air nozzle, said air nozzle providing a thrust-vectored down draft into said second section of said housing;

wherein said first section further includes a first coolant inlet having a cylindrical shape, a barbed fitting, and an integrally molded coolant nozzle, said first coolant inlet extending said housing sideward in a right angle to said first axis;

wherein said first section further includes a first integrally molded coolant passageway, and a first set of at least two coolant jets, said first coolant passageway connecting said first coolant inlet with said first set of coolant jets, wherein said first set of coolant jets is integrally molded into said first open end;

wherein said first section further includes a second coolant inlet having a cylindrical shape, a barbed fitting, and an integrally molded coolant nozzle, said second coolant inlet extending said housing sideward in a direction opposite to said first coolant inlet and in a right angle to said first axis;

wherein said first section further includes a second integrally molded coolant passageway, and a second set of at least two coolant jets, said second coolant passageway connecting said second coolant inlet with said second set of coolant jets, wherein said second set of coolant jets is integrally molded into said first open end;

wherein said first set of coolant jets and said second set of coolant jets are evenly spaced around the circumference of said first open end and between said first outer diameter and said first inner diameter of said first end, and wherein each of said coolant jets is positioned to expel coolant fluid toward said first axis;

wherein said second section has a cylindrical elongated shape, a hollow interior, and a second axis being in a right angle with said first axis, said second section extending downward from said first section along said

second axis and said second section being located proximate to said second open end of said first section;

wherein said second section includes a vacuum tube being in connection with said spherical internal chamber of said first section;

wherein said second section further includes at least two mounting flanges having an aperture, said mounting flanges being located proximate to the intersection of said first section and said second section and said mounting flanges extending sideward from said housing to opposite sides in a right angle to said first axis and said second axis;

a bristle brush ring, said bristle brush ring being attached to said first section of said housing proximate to said first open end; and

a band clamp that secures said bristle brush ring to said housing;

an external pressurized air source that provides pressurized air to said air intake;

an external coolant source that provides coolant to said first coolant inlet and said second coolant inlet; and

an external vacuum source that provides suction to said vacuum tube.

26. The coolant feed drill nozzle with thrust-vectored intake of Claim 25, wherein said housing is manufactured in one piece using a fused deposition modeled process and an ABS plastic material.

27. The coolant feed drill nozzle with thrust-vectored intake of Claim 25, wherein said housing is attached to a drill motor unit of a numerically controlled drill jig.

28. A method for providing coolant to a drill bit and for vacuum extracting drilling debris generated during a drilling process on non-flat surfaces, comprising the steps of:

providing a drill motor unit including a drill bit;

providing a drill nozzle including:

a housing having an air intake, multiple coolant inlets, multiple coolant passageways, multiple coolant jets, a vacuum tube, and mounting flanges; and

a bristle brush ring attached to said housing;

attaching said drill nozzle to said drill motor unit using said mounting flanges;

providing pressurized air to said air intake and creating a thrust-vectored down draft into said vacuum tube;

providing coolant fluid through said coolant inlets and through said coolant passageways toward said coolant jets;

expelling coolant fluid onto said drill bit;

providing suction to said vacuum source;

drilling a hole into a non-flat surface and generating drilling debris;

vacuum extracting said drilling debris trough said vacuum tube;

preventing drilling debris from exiting said housing of said drill nozzle towards said drill motor unit by providing said thrust-vectored down draft;

containing said drilling debris and coolant fluid inside said bristle brush ring, wherein said bristle brush ring touches said non-flat surface; and

preventing damaging and soiling surrounding structures and surfaces with said bristle brush ring.

29. The method for providing coolant to a drill bit and for vacuum extracting drilling debris generated during a drilling process on non-flat surfaces of Claim 28, further comprising the steps of:

providing a mounting device including adjustable slides;

attaching said drill nozzle to said drill motor unit using said mounting device; and

adjusting the distance between said drill nozzle and said drill motor unit according to the size of said drill bit with said adjustable slides.

30. The method for providing coolant to a drill bit and for vacuum extracting drilling debris generated during a drilling process on non-flat surfaces of Claim 28, further comprising the steps of:

providing an external coolant source and connecting said external coolant source with said coolant inlets;

providing an external pressurized air source and connecting said pressurized air source with said air intake; and

providing an external vacuum source and connecting said external vacuum source with said vacuum tube.